

A New Sub-Family and Species of New Zealand Opiliones

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In the following paper are described two new genera and species of harvestmen collected by Mr. E. G. Turbott on the Three Kings Islands. I wish to thank Dr. G. Archey (Director, Auckland Museum), for the opportunity of examining and describing this material.

As one of the species of new genera found in this material belongs to a new sub-family, of the family *Phalangidae*, which had been established in manuscript for a species collected by the author at Titirangi, Auckland, this species also has been included in the present paper.

The *Phalangidae* was previously divided into seven sub-families, of which one, the *Phalangiinae*, was recorded from N.Z. The sub-family *Monoscutinae* n. sub-fam. would appear to be most closely related to *Oligolophinae*, which is widely distributed in the northern regions of the world. However, the N.Z. sub-family is clearly distinguished from the *Oligolophinae* by the relative shortness of the legs, the general lack of dorsal abdominal segmentation, and the uniform denticulation of the cutting edges of the cheliceral fingers.

The sub-family is limited to the northern portions of the North Island of New Zealand.

ORDER OPILIONES.

SUB-ORDER PALPATORES.

FAMILY PHALANGIIDAE.

SUB-FAMILY MONOSCUTINAE n. sub-fam.

Body flattened, thickly chitinised. Cephalothorax and all tergites fused, not divided by transverse grooves. Abdominal sternites fused, but sometimes faintly separable by transverse grooves. Corona analis absent. Openings of odoriferous glands clearly visible from above. Coxae I and IV without anterior or posterior rows of granules. Maxillary lobes of coxae II slender, directed anteriorly towards the anterior margin of the genital operculum, forming with each other an obtuse angle. Basal segment of mandibles with single ventral forwardly directed spine. Cutting edge of fingers armed with small, uniform-sized teeth. Pedipalp tarsus much longer than tibia, terminated by distinct, simple, smooth claw. Legs relatively short. Secondary sexual characters slight or absent. Two genera in N.Z.

Genus MONOScutUM n. gen.

Eye mound spherical, clearly removed from the anterior margin of the carapace; with single median tubercle rising anterior to the eyes. Cephalothorax and all tergites fused, transverse grooves absent; but divided behind eye mound into areas by transverse lines of small pustular papillae. Third such area with median pair of spines. Rest of body without spines. Sternites fused, hard, divided by faint transverse grooves which do not reach the sides.

Spiracles hidden.

Mandibles short, basal segment armed below with single forwardly directed spine. Pedipalp longer than body. Patella with well-developed inner distal apophysis. Tarsus nearly twice as long as tibia and terminated by simple smooth claw.

Legs short, 2, 4, 3, 1.

Tarsal segments, more than 20.

Genotype *M. titirangiensis* n. sp.

Monoscutum titirangiensis n. sp. Pl. 60, figs. 1-4.

Body: Eye mound spherical, placed one half its diameter from the anterior margin of cephalothorax; armed with single median blunt tubercle, rising from between and slightly in front of the eyes, and directed forward. Anterior margin of cephalothorax with one median indentation, enclosing the chelicerae, and two lateral indentations on each side enclosing coxae I and II respectively. Cephalothorax and sternites as in generic description, with eight transverse rows of papillae behind eye mound. Sternites as in generic description, smooth, with papillae or spines. Genital operculum large, widening distally, sparsely covered with small black setae.

Chelicerae: Basal segment armed below with single, small, forwardly directed spine, apart from which the chelicerae are smooth. Fingers crossed when closed; cutting edges with numerous small uniform-size teeth.

Pedipalp: All segments covered with numerous small black setae. Patella with prominent inner distal apophysis (Fig. 3). Tarsus slender, nearly twice as long as tibia. Claw, distinct, smooth.

Legs: 2, 4, 3, 1. Coxae smooth. Trochanter I-III with one antero-lateral and one postero-lateral spine. Trochanter IV with only one antero-lateral spine. Remaining segments smooth. All segments clothed with small black setae. Tarsal segments 21, 60, 20, 22.

Colour: Body light-brown except for a median black area surrounding the two spines on the tergum, behind which extends a lighter area. All legs and appendages uniform light-brown. Eye mound grey, eyes black.

Measurements:

	Body			Length 2.5		Width 1.8		Total.
	Cox.	Troch.	Fem.	Pat.	Tib.	Met.	Tars.	
Leg I	.5	.3	1.0	.45	1.05	1.25	2.25	6.8
Leg II	.7	.3	2.55	.75	3.35	1.35	7.0	16.0
Leg III	.9	.25	1.05	.4	1.0	2.0	1.5	7.1
Leg IV	.95	.4	1.6	.5	1.5	3.25	1.6	9.8
Pedipalp	.25	.4	.7	.4	.5		.9	3.15
Chelicera			Basal	.7	Second	.8	Total	1.5

Type: Dominion Museum Collection, Tube 2/60.

Locality: Titirangi (Type Loc.) Coll. R.R.F.

ACIHASTA n. gen.

Eye mound spherical, less than half its diameter from anterior margin of cephalothorax, armed with single large upwardly-directed spine, rising from between eyes. Cephalothorax and tergites fused, without transverse grooves, but divided behind eye mound by transverse granular ridges. Posterior margin of body fringed with strong spines. Sternites fused, no transverse grooves visible. Spiracles hidden. Pedipalp longer than body; patella with prominent inner distal apophysis. Tarsus nearly twice as long as tibia. Claw, distinct, smooth. Legs short. Tarsal segments more than 13.

Genotype *Acihasta salebrosa* n. sp.

Acihasta salebrosa n. sp. Pl. 60, figs. 5, 6.

Body: Eye mound spherical, rising from immediately behind anterior margin of cephalothorax, armed with strong median upwardly directed spine between eyes. Both eye mound and spine coarsely granulated. Deep median indentation of cephalothorax encloses basal portions of chelicerae and pedipalp. No lateral indentations present. Entire dorsal body area, including spines, coarsely granulated. Cephalothorax with three spines on each side; a small one immediately below each of the lateral limits of the median indentation, a further small one on each lateral margin in line with the middle of the eye-mound and a third large spine on each side a quarter way down the body. Body area behind the large spines divided by nine transverse granular ridges into nine areas. Fifth to ninth such areas with a strong laterally-directed spinous outgrowth on each lateral margin, forming a postero-lateral fringe to the body. (Fig. 5.)

Abdominal region anteriorly wider than cephalothoracic region. Sternites fused, smooth, segmentation not visible.

Chelicera: Basal segment ventrally with forwardly-directed proximal spine. Otherwise smooth. Fingers crossed when closed, cutting edges with numerous regular teeth.

Pedipalp: Finely granulated, covered with numerous fine whitish setae. Patella with strong inner distal apophysis. Tarsus nearly twice length of tibia. Claw distinct, smooth.

Legs: Short, 2, 4, 3, 1.

All segments except tarsi finely granulated. No setae present. Trochanter I to III with one antero-lateral and one postero-lateral blunt tubercle. Trochanter IV without tubercles.

Colour: Spines and transverse granular lines on body, yellowish. Remainder of body dark brown. Legs and pedipalp dark brown. Chelicerae yellow. Eye mound dark brown. Eyes with black centre surrounded by a light area, which again is surrounded by a dark area.

Measurements:

	Body			Length 2.15		Width 1.5		Total.
	Cox.	Troch.	Fem.	Pat.	Tib.	Met.	Tars.	
Leg I	.5	.25	.8	.3	.8	1.25	2.0	5.9
Leg II	.55	.25	2.25	.75	2.5	2.25	5.0	13.55
Leg III	.6	.2	1.2	.45	.8	1.45	2.25	6.95
Leg IV	.75	.25	2.0	.45	1.25	2.5	1.75	8.95
Pedipalp	.25	.35	.65	.3	.4		.7	2.65

Chelicera ..	Basal .5	Second .7	Total 1.2
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Type: Auckland Museum Coll.

Localities: The species is based on a single specimen collected by Mr. E. G. Turbott on Great Island, Three Kings.

SUB-ORDER LANIATORES.

FAMILY TRIAENONYCHIDAE.

SUB-FAMILY ADAEINAE.

Genus TRIREGIA n. gen.

Eye mound removed from the anterior margin of cephalothorax by nearly its own diameter, with one anterior-median and one posterior-median large erect and blunt spine. Tergites I-V fused, areas distinguished by transverse grooves which do not reach the sides. Area II and area IV each with median pair strong spines. Anterior margin of cephalothorax strongly armed with forwardly projecting spines. Area V and free tergites I-III each with transverse row of strong spines. Sternites smooth. Sternum narrowly triangular. Chelicerae small, weak, covered with a number of setose tubercles. Pedipalps strong, as long as body, armed below with strong spines.

Coxa I below with numerous spines. Coxae II-IV below with low tubercles. Tarsal segments 3, 7-8, 4, 4.

Distitarsal segments of legs I and II: 2, 3.

Side branches on claws of legs III and IV very small, branching from halfway. Spiracle opening hidden.

Genotype *T. monstrosa* n. sp.

Triregia monstrosa n. sp. Pl. 61, figs. 7-11.

Body: Entire dorsal surface with small papillae placed in a nearly regular pattern (Fig. 7). Eye mound bluntly conical, separated by its diameter from the anterior margin of the cephalothorax, armed along the median line with two strong, erect, blunt spines; one rising anterior to, and one posterior to, the eyes. Eyes placed on outer side of eye mound and directed laterally. Anterior margin of cephalothorax with strong transverse ridge along which are nine spines. Median large, flanked by two small, and a further two large, spines on each side. The row of spines is extended immediately behind ridge by further large spine on each side. There is a further small spine at each anterior corner. On each posterior corner of the cephalothorax is a single large laterally directed spine. Areas I-V distinguished by definite transverse grooves which reach two-thirds across on each side to a pronounced longitudinal groove, which cuts off an unsegmented lateral margin. Lateral margin with two small spines, one at one-seventh, the other at one-third down.

Area I with a median pair of strong erect conical spines, flanked on each side by a smaller spine. Area II without spines. Area III with a median pair of spines of similar appearance to Area I but closer together. Area IV without spines. Area V with large single median spine, flanked on each side by a row of three small spines.

Free tergites 1 and 2, each with a transverse row of seven spines. Free tergite 3 with transverse line of three spines. Sternites smooth, not spined. Sternum as in fig. 10.

Genital operculum with number of small setose tubercles.

Chelicerae: Short and weak. Basal segment with one median dorsal and a transverse dorsal distal row of five setose tubercles. Second segment uniformly covered with small low setose tubercles.

Pedipalp: Coxa below with a number of low tubercles. Trochanter below with two outer and one inner spine. Inner and outer lateral surface with number of small tubercles. Femur below with outer row of five sharp spines followed by two small blunt spines. Inner surface with row of seven strong spines. Median dorsal row of five blunt spines and a number of small blunt spines on the outer lateral surface.

Patella constricted proximally and strongly curved; one outer distal spine; inner margin with two spines; dorsal surface covered with low tubercles. Tibia below with three outer spines and two inner and dorsal surface with numerous low tubercles. Tarsus below with three outer spines and three inner sharp spines. Terminal claw large and curved.

Legs: Coxa of leg I with numerous sharp spines below; trochanter below with two strong spines; femur below with proximal row of three strong and one small spines above with median line of six small setose tubercles, remaining segments free from spines and tubercles. Coxa of leg II below with numerous low tubercles and large blunt spine at posterior distal corner; trochanter with two spines along posterior margin,

and a number of small tubercles on the ventral surface; remaining segments free from spines and tubercles. Coxa of leg III with row of small tubercles on anterior and posterior margins; trochanter with several small tubercles below and single larger one on anterior distal corner. Femur with two small setose tubercles on the proximal outer margin. Remaining segments free from spines and tubercles.

Coxa of leg IV very large, smooth below, anterior and posterior margins each with row of small tubercles. Anterior distal margin with row of three small spines followed by single large spine. Anterior margin of trochanter with one spine at half-way and one at distal corner. Remaining segments free from spines and tubercles.

Calcaneus small.

Tarsal segments: 3, 7, 4, 4.

Distitarsal segments of legs I and II: 2, 3.

Side claws small, branching off median claw at half-way.

Measurements:

	Body			Length 7.1		Width 5.2		Total.
	Cox.	Troch.	Fem.	Pat.	Tib.	Met.	Tars.	
Leg I	1.5	.4	3.5	.6	1.7	3.0	1.0	11.7
Leg II	2.0	.6	5.5	1.0	4.5	5.0	1.0	19.6
Leg III	2.4	.6	4.6	1.0	3.0	5.0	1.2	17.8
Leg IV	2.7	.8	6.1	1.0	4.0	8.0	1.2	23.8
Pedipalp	.7	.7	2.5	1.3	1.7		1.0	7.9

Chelicera ..	Basal 1.4	Second 1.3	Total 2.7
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Type: Auckland Museum Collection.

Paratype: Dominion Museum Collection. Tube 2/61.

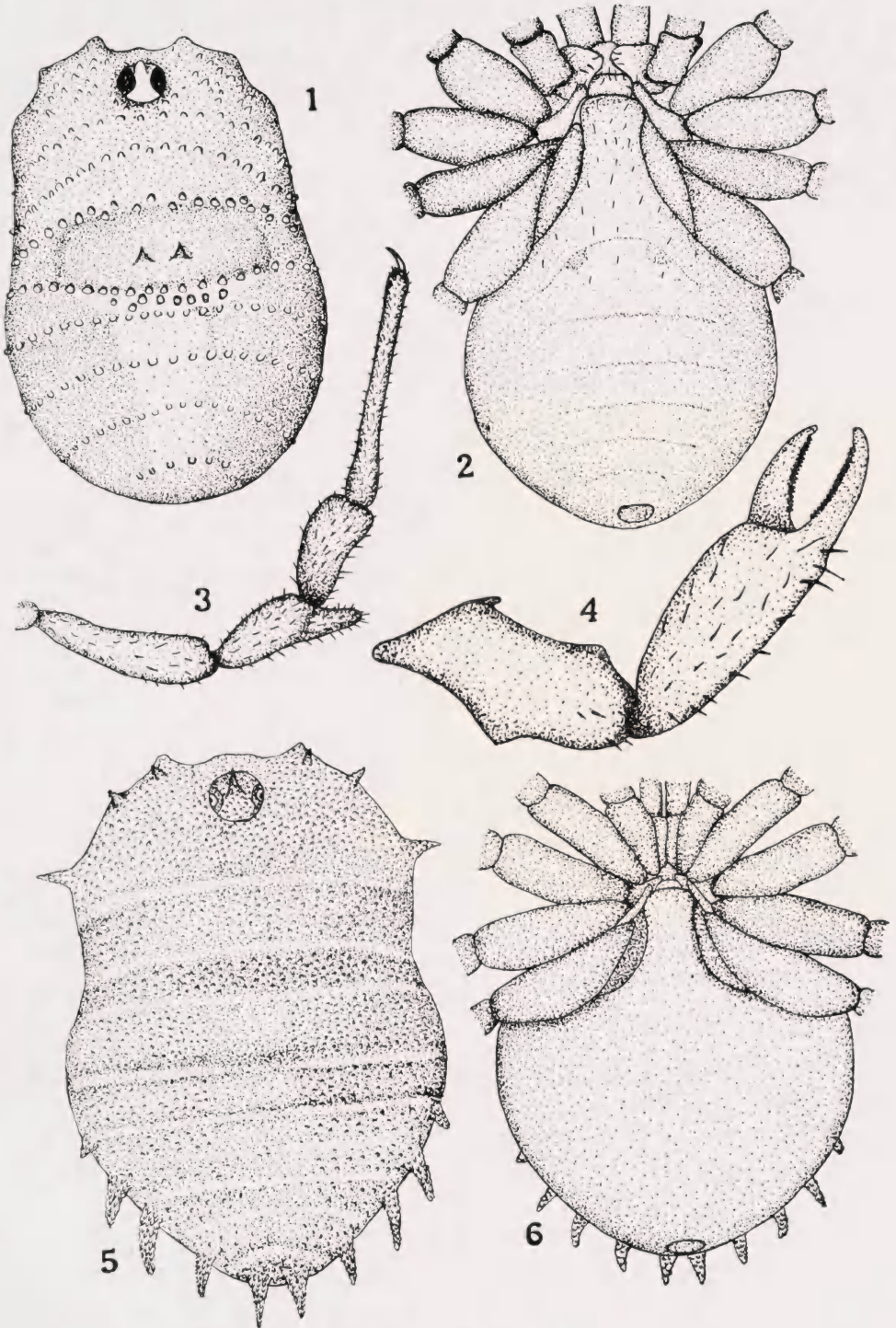
Locality: Three specimens collected by Mr. E. G. Turbott from Great Island under stones.

Triregia bilineata (Forster).

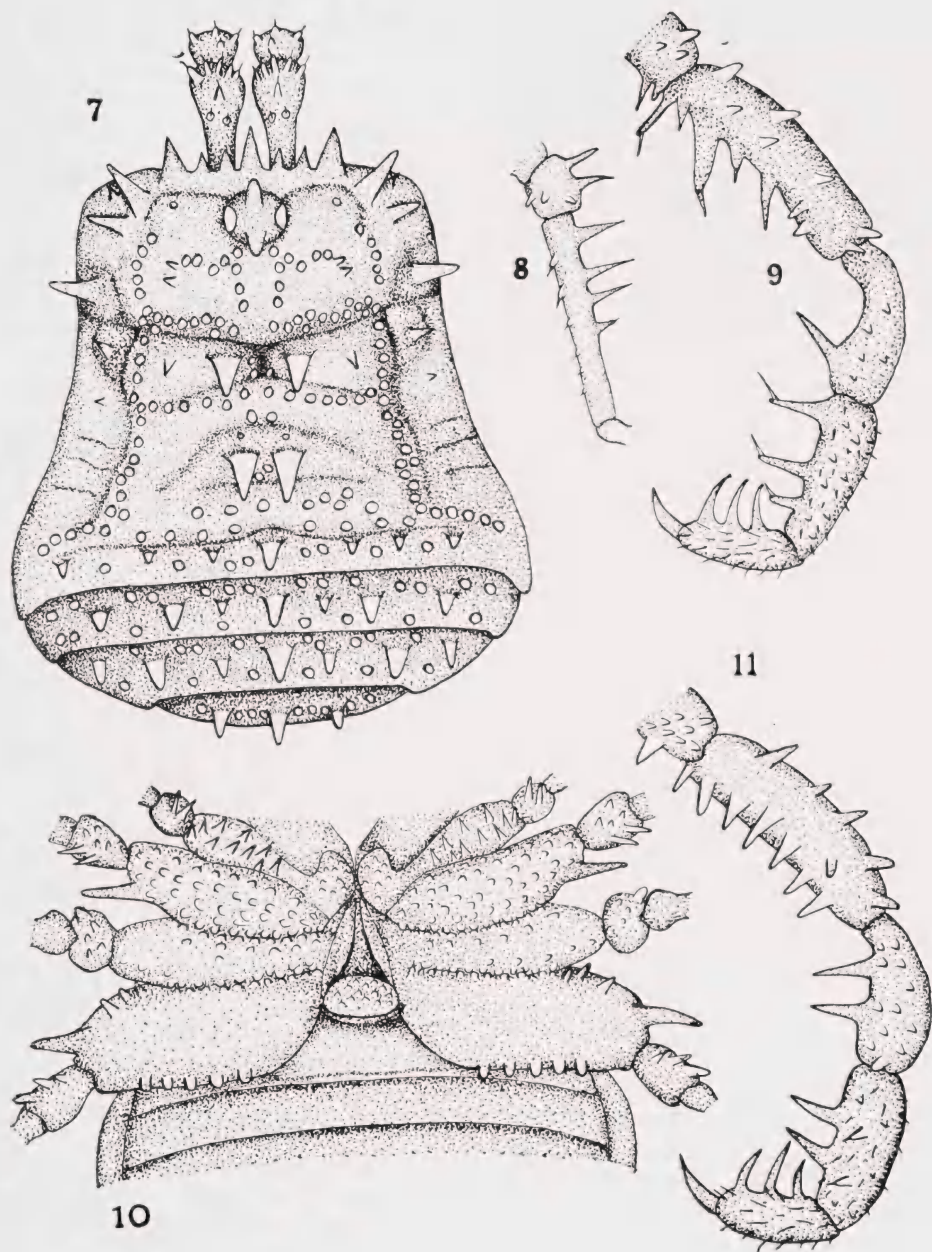
Adaeum bilineata Forst., 1943.

The above species was originally described under *Adaeum* Karsch. It undoubtedly is congeneric with *T. monstrosa*, from which it may be distinguished by its smaller size, presence of a median pair of spines on area IV, and different spination of the pedipalp.

This species was recorded from Whangarei.



Figs. 1-4 *Monoscutum tairangiensis* n. sp.
 Fig. 1 Dorsal view of body with appendages omitted.
 Fig. 2 Ventral view of body.
 Fig. 3 Pedipalp, inner surface.
 Fig. 4 Chelicera, outer surface.
 Figs. 5-6 *Acihasta salebrosa* n. sp.
 Fig. 5 Dorsal view of body, with appendages omitted.
 Fig. 6 Ventral view of body.



Figs. 7-11 *Triregia monstrosa* n. sp.

Fig. 7 Dorsal view of body and chelicerae.

Fig. 8 Antero-lateral view of trochanter and femur of leg I.

Fig. 9 Outer view of pedipalp.

Fig. 10 Ventral aspect of the anterior portion of body.

Fig. 11 Inner view of pedipalp.